Title (en)

Ferroelectric memory sensing method using distinct read and write voltages

Title (de)

Leseverfahren eines ferroelektrischen Speichers unter Verwendung von unterschliedlichen Lese- und Schreibespannungen

Title (fr)

Méthode de lecture de mémoire ferroélectrique utilisant des tensions de lecture et d'écriture distinctes

Publication

EP 0735541 A3 19980722 (EN)

Application

EP 96301669 A 19960312

Priority

US 41308395 A 19950329

Abstract (en)

[origin: US5532953A] A method of operating a nonvolatile ferroelectric memory cell including a polarized ferroelectric capacitor includes the steps of reading and restoring a first polarization state of the ferroelectric capacitor at a voltage not sufficient to fully saturate the ferroelectric capacitor, but sufficient to release a detectable amount of charge corresponding to the first polarization state. Writing a second polarization state in the ferroelectric capacitor is performed at a voltage sufficient to fully saturate the ferroelectric capacitor. During a read and restore operation, the plate line of the memory cell is pulsed with first and second voltage pulses that each have a voltage magnitude less than the normal five volt logic pulse, for example four volts. During a write operation, the plate line of the memory cell is pulsed with a voltage that has a magnitude greater than the normal five volt logic pulse, for example six to seven volts.

IPC 1-7

G11C 11/22

IPC 8 full level

G11C 11/22 (2006.01); **G11C 14/00** (2006.01)

CPC (source: EP US)

G11C 11/22 (2013.01 - EP US)

Citation (search report)

- [XA] EP 0558418 A1 19930901 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- [XA] EP 0495572 A2 19920722 - NAT SEMICONDUCTOR CORP [US]

Designated contracting state (EPC)

DE GB

DOCDB simple family (publication)

US 5532953 A 19960702; DE 69613266 D1 20010719; DE 69613266 T2 20010920; EP 0735541 A2 19961002; EP 0735541 A3 19980722; EP 0735541 B1 20010613; JP 3200009 B2 20010820; JP H08273375 A 19961018

DOCDB simple family (application)

US 41308395 A 19950329; DE 69613266 T 19960312; EP 96301669 A 19960312; JP 7659496 A 19960329